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ABSTRACT

Two research efforts were conducted by the education faculty at Southeastern Oklahoma State University to determine what inservice teachers felt they needed to know about educational technology in order to be successful teachers in the public schools and then to structure educational technology courses in the teacher education curriculum accordingly. The first component surveyed education technology courses offered by 10 teacher education departments in Oklahoma. Results of the survey revealed that most courses were geared toward traditional audio-visual concepts and practices. The second component surveyed new and veteran teachers and school administrators. Survey findings indicated that only 20 percent of new teachers considered themselves very prepared to use educational technology, 70 percent of administrators considered themselves moderately prepared, and veteran teachers considered themselves least prepared. Nearly 85 percent of administrators and 80 percent of veteran and new teachers felt that university course work in use of educational technology was either very or moderately important. All three groups affirmed that instruction in educational technology should continue to increase in importance. (ND)

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ED 412 200

Educational Technology Needs and Wants in Rural Oklahoma Schools

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Introduction

Teacher educators in the state of Oklahoma have received and are acting upon a new impetus to modify their Teacher Education Programs. HB 1549 requires that a new competency-based teacher preparation system be mandated for any Teacher Education Program in the state to receive accreditation from a specially formed Oklahoma Commission for Teacher Preparation. The new accreditation system requires the following: (1) institutional plans based on the *Standards for Oklahoma Accredited Teacher Education Programs*; (2) on-site visits to institutions of higher education campuses; (3) analysis of data related to student success rates on structured assessments; (4) analysis of student portfolios; and (5) analysis of student satisfaction data. The designated Institutional Plan is based on the Oklahoma State Department of Education General Competencies for Teacher Licensure and Certification and full subject matter competencies, as well as, the NCATE Curriculum Guidelines and Folios.

Judging by the content of both the Oklahoma Commission for Teacher Preparation and NCATE guidelines, there are not any pressing needs with respect to Educational Technology in teacher education curricula. The Commission addresses the issue of educational technology needs of teachers in cursory fashion in Standard 1.D.1, Professional and Pedagogical Studies for Initial Teacher Preparation, which states,

> "Candidates complete a well-planned sequence of courses and/or experiences in professional studies in which they acquire and learn to apply knowledge about:
> -the impact of technological and societal changes on school;"

While NCATE has recently organized a task force to investigate increased technology in teacher education programs, NCATE Standards, adopted as of May 19, 1994, address educational technology needs of preservice teachers in Standard 1.C: Content Studies for Initial Teacher Preparation (Initial), in cursory fashion,

> "The unit ensures that teacher candidates attain academic competence in the content that they plan to teach.
> *Indicators:*
> (6) Candidates complete a sequence of courses and/or experiences to develop an understanding of the structure, skills, core concepts, ideas, values, facts, methods of

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inquiry, and uses of technology for the content they plan to teach."

The results of such inadequate emphasis on educational technology have curricula of teacher education suffering from a wide disparity of technologies available to preservice educators, with many programs characterized as woefully inadequate (Barksdale, 1996). Not only do teacher education programs lack technology to teach with and about, but they lack the curriculum structure to minimally address the vast potential of technology use in public school teaching.

Many researchers suggest that the answer to inadequate preparation of preservice teachers is the development of teaching methods courses which require students to incorporate technology-based methodologies in their respective teaching fields (Vagle & College, 1995; White, 1994; Dugdale, 1994). Other researchers point towards innovative programs which foster faculty development of teacher educators (Kortecamp & Croninger, 1995; White, 1995). One thing is clear: there is no verifiable consensus of what teacher educators should be doing to prepare teachers to use educational technology in their classrooms.

Why is there no consensus? A plausible hypothesis suggests that teacher education curricula are subject to a "top-down," hierarchical approach, which is often dictated to them from ivory towers which are taller and more out of reach than the proverbial ivory towers of teacher education faculty. This hypothesis is supported by the above mention of both the Oklahoma Commission for Teacher Preparation and NCATE. The root of the problem does not lie exclusively in the inadequate attention given to educational technology, but also in the fact that the existing, "top-down" guidelines are missing teachers' real needs.

Total Quality Management, as coined by W. E. Deming, runs exactly counter to the described approach to structuring teacher education curricula (Freeston, 1992). The key to applying TQM principles to education in a successful way lies in regular collaboration between involved parties (Schmoker & Wilson, 1995). With the two agencies, who have drafted the "competencies" and "guidelines" which control teacher education, there is missing collaboration with probably the most important people in the network of customers and clients: classroom teachers and administrators.

The following paper details two research efforts conducted by faculty at Southeastern Oklahoma State University to be used as a basis for curriculum development of an educational technology component of the teacher education curriculum. The intention of the curriculum

development project has been to determine what inservice teachers feel that they need to know related to educational technology in order to be successful teachers in the public schools and then to structure educational technology courses in the teacher education curriculum accordingly. The results of this research effort tend to show the inadequacies and misdirection of both "competencies" and "guidelines," to which teacher education curricula owe the highest allegiance.

An Educational Technology Task Force

During the Spring semester of 1993, researchers formed an Educational Technology Task Force in order to begin reconstruction of the mandatory audio-visual component of the undergraduate, teacher education curriculum. Contrary to existing literature and general consensus among teacher education faculty at that time, the researchers felt that educational technology should hold a prominent place in the teacher education curriculum. The Educational Technology Task Force surmised that an accumulation of real data was required to gain impetus for promoting educational technology. Task Force members decided to conduct two investigations: the first of existing educational technology related courses in colleges and universities with teacher education programs; the second of the existing patterns of use and needs of educational technology by public school teachers and administrators.

The First Research Component

During the Summer and Fall semesters of 1993, the Ed Tech Task Force conducted a survey of educational technology courses offered by teacher education departments in Oklahoma by letter and telephone. Initial response rates to the written survey in the Summer semester of 1993, which simply requested copies of existing course syllabi for educational technology or related courses, were approximately 60%. A follow-up, telephone survey was conducted in the Fall semester of 1993, which served to increase the response rate to approximately 75%. The universities responding include the following: Bartlesville Wesleyan College, Central Oklahoma State University, East Central Oklahoma State University, Langston University, Northwestern Oklahoma State University, Oklahoma City University, Southeastern Oklahoma State University, Southern Nazarene University, Southwestern Oklahoma State University, and the University of Science & Arts of Oklahoma.

Results of the First Research Component

Based on the content of the course syllabi, the vast majority of Audio-Visual courses were geared to teach basic audio-visual concepts and practices. Most of the courses stressed the theories of using audio-visual equipment stated in the course textbook. The major focus of textbook

study was 16mm projectors, videotape recorders, slide projectors, filmstrip projectors, overhead projectors, tape recorders/players, transparency making equipment, 35mm photography equipment, duplication and preservation techniques, and microcomputers. Students were expected to demonstrate a very basic proficiency in the use of most of the above equipment and to produce bulletin boards, transparencies, videotapes, and lettered visuals. While several of the courses require written reviews or summaries of journal articles related to educational technology, only one course incorporated hands-on use of microcomputers. The results of the survey surprised the researchers due to the lack of emphasis placed on the modern components of educational technology.

The Second Research Component

The second research component was begun during the summer semester of 1994. The express purpose of the second study was to establish a practical rationale for the development of an Educational Technology component of the Teacher Education Curriculum. While program developers knew that computer-based technology should be added to the existing A-V courses, the actual needs of graduates with relation to such technology were conjectural and were certain to face skeptical scrutiny.

An existing data base of graduates utilized in the state's Entry Year Mentoring Program allowed access to Southeastern graduates entering their first teaching job. The data base also allowed access to designated Mentor teachers of veteran status and to school-level administrators. A major strength of this component of the research is the validity of the population sample, which allows direct transfer of findings in the most practical fashion. Two surveys, one for teachers and one for administrators, were compiled, based in part on several existing surveys displayed by *Scholastic's National Center for Technology Planning* at Mississippi State University via Internet. The survey for teachers was further divided to differentiate between new and veteran teachers.

The distributed surveys were constructed to address the following objectives:

1. To determine available technology at elementary, middle, and high school levels for both teachers and administrators in the 11-county focus area of service for Southeastern Oklahoma State University.
2. To determine perceived levels of technology usage at elementary, middle, and high school levels for both teachers and administrators in the 11-county focus area of service for Southeastern Oklahoma State University.
3. To determine teacher perceptions of present and future technology needs for their teaching endeavors.

4. To determine administrator perceptions of present and future technology needs for their administrative/managerial endeavors.

The surveys were mailed during the Spring and Summer of 1995 to a population consisting of one hundred and twenty-three (123) of each of the following: new teachers, veteran teachers, and school administrators, with a response rate of approximately 45%. Borg and Gall (1993) indicate that response rates of 40% are expected for first run surveys, and the researchers felt that the responses reflected actual trends in the use of educational technology in the region. Some of the following areas specifically addressed were: self-perception of preparation to use educational technology, perceived importance of university courses related to educational technology, perceived need of necessary hours of university instruction in educational technology at both the undergraduate and graduate levels, and perceived importance of educational technology in public school education in the years 1995 and 2005.

Results of Second Research Component

The results for the second research component were figured in terms of the percentages of respondents for each survey alternative. Due to the instability of survey data, no interpolating statistics were used. The findings were viewed as descriptive of existing trends.

With respect to self-perceptions of being prepared to use educational technology there were discrepant findings relative to new teachers, veteran teachers, and administrators. Nearly twenty percent (20%) of new teachers felt themselves to be very prepared to utilize educational technology, while nearly 70% of administrators felt themselves moderately prepared. In general, veteran teachers felt the least prepared, with nearly 20% designating themselves as unprepared.

The figures were also very high for the perceived need of university course work as a prerequisite to utilization of educational technology. Nearly 85% of administrators felt course work as either very or moderately important, while 80% of veteran and new teachers felt the same.

One of the most interesting set of questions contained on the surveys asked how many undergraduate and graduate hours should be allocated to educational technology courses in teacher education curricula. At the undergraduate level, while no one selected zero hours of course work, about twenty percent (20%) of respondents from all three categories selected from 2-3 hours as their choice. Nearly 50%

of all teachers, both new and veteran, selected between 4-6 hours of course work, while 28% opted for 7+ hours. Administrators registered in with approximately 40% selecting from 4-6 hours and a surprising 37% opting for 7+ hours.

At the graduate level, veteran teachers had about equal thirds selecting 2-3 hours, 4-6 hours and 7+ hours of university course work in educational technology. New teachers reflected 20% at 2-3 hours, 28% at 4-6 hours, and 36% at 7+ hours. Administrators, however, were more divided, with about 10% suggesting no course work, 16% at 2-3 hours, 42% at 4-6 hours, and 33% at 7+ hours.

To the question, "How important is Ed Tech in 1995 and 2005?" respondents consistently affirmed a very important status, with all three groups registering at about 65% for 1995 and 80% for 2005.

Discussion

The results of these two research efforts indicate that the transition from an A-V to an Ed Teach perspective in teacher education curricula, while in full swing, has still a long way to go. Too many teacher education programs, like the agencies which regulate teacher education, are paying minimal attention to educational technology. It seems that the A-V mindset is still in control of the teacher education curriculum. The resulting educational technology programs are not giving future public school teachers and administrators what they want and need related to educational technology. Findings suggest that most teachers and administrators consider themselves marginally prepared to use educational technology, that they need and want more staff development and university course work related to educational technology, and that they are "hungry" for more educational technology.

In this era of Commission and NCATE driven concerns for curriculum development in the area of teacher education, at both the graduate and undergraduate levels, the most striking finding might be the perceived need for a significant increase of course hours in or related to educational technology. Many institutions at this time offer two to three hours of course work at the undergraduate level and the same or no course work at the graduate level. Based on the insights gained from collaboration with real public school teacher and administrators, there should be more courses offered in educational technology. Clearly, misdirected, "top-down," constraints from "ivory towers," are prevailing over the true needs and wants of classroom teachers.

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